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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,564	05/10/2001	Steve Scott Williams	STL9661/M&G40046.115USU1	6321

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EXAMINER

DOOLEY, MATTHEW C

ART UNIT

PAPER NUMBER

2133

5

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,564

Applicant(s)

WILLIAMS ET AL.

Examiner

Matthew C. Dooley

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 5 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 sets forth to claim a method of validating ECC circuitry, however only discloses methods for determining if a sector is good, but not a method for validating an ECC engine. Moreover, claim 5 teaches to disabling an ECC circuit, and then claims to validate the ECC circuit, however, no steps are shown to teach to the device validation. Similarly, claim 11 also claims to validate the error correction code, but the claim fails to do so, instead claiming only to validate a sector and to disable the ECC engine.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kassab, U.S. 5,687,036, in view of Cooper, U.S. 6,397,357.

As per claim 1:

Kassab teaches to choosing a physical sector for running a validation test and determining if the sector is good (Fig.4; Col.6: 7-62). However, although Kassab teaches

to an ECC engine, there is no specific teaching for the validation of said ECC engine.

Cooper teaches to a method of ECC validation (Fig.2; Abstract). It would have been obvious for one of ordinary skill in the art at the time of the invention to make use of the ECC validation methodology of Cooper in conjunction with the testing methodology of Kassab because the teachings of Cooper allow for secondary checking of the disk drive system of Kassab, thus allowing for selection of soft and hard errors, as well as determining the ability to correct said errors (Cooper: Col.2: 18-20).

As per claim 2:

Kassab teaches to commanding the disabling, and disabling the error correction functions of the disk drive, issuing write commands, writing data, issuing read commands, reading the written data, and comparing the written and read data (Fig.4; Col.6: 7-62).

As per claim 3:

The method of Kassab allows for a third read command to a third sector (Fig.4).

As per claim 4:

Kassab teaches to reading secondary sectors and detecting errors within, as well as repeating the reading and detection process until no errors are detected, or till a number of repetitions has been reached to preclude reporting a valid sector as invalid (Fig.4: Col.6: 7-62).

As per claim 5:

Kassab teaches to receiving a command from a host connected to the disc drive, determining if the error correction code circuitry should be disabled and disabling the

error correction code if the command is for sector error testing (Fig.4; Col.6: 7-62).

Moreover, Cooper teaches that ECC validation takes place after commands are issued to disable the ECC circuitry (Fig.2).

As per claim 6:

Kassab teaches to reading secondary sectors and detecting errors within, as well as repeating the reading and detection process until no errors are detected, or till a number of repetitions has been reached to preclude reporting a valid sector as invalid (Fig.4: Col.6: 7-62).

As per claim 7:

Cooper teaches to calculation of error code, appending the error code to the data, and writing the data onto the storage unit (Fig.2).

As per claim 8:

Kassab teaches to receiving a second write command from a host connected to the disc drive, based on said command, disabling the ECC circuit and not appending error correction bits to the data block, and writing the data to a disk drive at a specified sector (Fig.4; Col.6: 7-62).

5. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billings et al., U.S. 6,249,393, in view of Kassab, U.S. 5,687,036.

As per claim 9:

Billings teaches to a disk with a plurality of sectors that also includes an ECC calculating module, an appending module, and a write decision module (Fig.2: Col.6: 39-45). However, the write decision module does not expressly bypass the ECC modules.

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Kassab teaches to the bypassing of ECC modules for device testing. It would have been obvious for one of ordinary skill in the art at the time of the invention to make use of the ECC bypassing techniques of Kassab in conjunction with the testing methodology of Billings because the teachings of Kassab allow for secondary checking of the disk drive system of Billings, thus allowing for selection of soft and hard errors, as well as determining the ability to correct said errors (Kassab: Col.6: 41-62).

As per claim 10:

Billings teaches to a detecting and correcting module (Fig.2). Kassab teaches to a read decision module that determines whether to disable a correcting function by bypassing a correction module (Col.6: 41-62).

As per claim 11:

Billings teaches to a host computer with a read/write channel and an ECC engine that includes an error detection and correction function (Fig.2; Col.6: 39-45). Kassab teaches to a validation means that uses commands to identify a valid sector and also disables the error correction function of the ECC circuitry (Fig.4; Col.6: 7-62).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- | | | |
|----|--------------|----------------|
| a. | Saiki et al. | U.S. 5,677,802 |
| b. | Barr et al. | U.S. 5,909,334 |

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Dooley whose telephone number is (703) 306-5538.

The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Matthew Dooley
Examiner AU 2133
03/05/04



Albert DeCady
Primary Examiner